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ABSTRACT

The value of microteaching is being investigated at Malmo College of Education (Sweden). To study the effects of self-confrontation via closed-circuit television/videotape recording, as compared with the effect of the traditional tutorial model, a "p x q coefficient" experiment with repeated feeding was initiated in the school year 1968-69. During the first phase, Spring Term 1969, and during the seccnd phase, Spring Term 1970, a total of 96 teacher trainees participated as experimental persons. In addition, about 360 pupils belonging to the fourth year of the experimental and demonstration school of the College of Education took part in the experiment and were divided into 24 instructional groups. A panel of four teachers of education assessed the microlessons used for both phases. Processing of the collected data has commenced. Questions the data are expected to answer bear upon the reliability of the panel, the effect of the experience on the participating teacher trainees, the correlation of variables, and the effects of the four different experimental stipulations. The Institute of Education at Malmo School will continue to issue reports on this and similar experiments from time to time. References are given. (MF)

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Current project 1970:18

Project title: Investigation into Closed-Circuit Television, principally as a component system of educational technology intended for integrated teacher training.

Carried out at: The Institute of Education, Malmö School of Education

Scientific Leader: Professor Åke Bjerstedt

Project Leader: Bertil Gran, Lecturer

Assistant Project Leader: Bernhard Bierschenk, Assistant Lecturer

In 1967 this research project was initiated by Professor Åke Bjerstedt and Bertil Gran, Lecturer, at Malmö College of Education. The principle aims may be described as follows:

(a) to develop a model for the systematic construction and evaluation of CCTV programmes, and

(b) to study a series of special problems in which CCTV arrangements are implicated as a component system in integrated teacher training (e.g. exploitation of the the technique of self-confrontation, the elaboration of observer activty in video-taped tele-auscultation, the construction of a video-taped behaviour test of simulator-type etc.) (Bjerstedt, 1969 c, II:2-1).

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For a more detailed account of the project the reader is referred to earlier presentations (e.g. Bjerstedt, 1967 a and b).

In the following account a survey is given of the sub-project: Self-confrontation via CCTV in Teacher Training. This investigation has been carried out mainly under the direction of Bernhard Bierschenk, Assistant Lecturer.

Problems

(1) To study the effects of selected aspects of behaviour through auscultation of own lessons distributed by CCTV or cideo-tape

(2) To study possible changes in the field of perception of the teacher trainees as well as the evalution of their own teaching om different occasions of play-back at varying intervals of time

(3) To study the teacher trainees´ self-assessment and estimation of their own teaching in a microteaching situation in relation to the estimations of a panel of experts.

Certain other detailed problems will be made the subject of studies in accordance with the examples given on pp. 6-7.

Background and Aims

The purpose of all training is to influence individuals with the intention of bringing about modifications of behaviour. One of the conditions necessary for such modifications of behaviour is that the training of the individual should result in a change of his field of perception.

The field of perception is a very important factor which affects the individual´s beaviour. The possibility of altering a form of behaviour is, among other things, dependent on the possibility of changing perception. In order to control or change the individual´s belaviour it is necessary to change his field of perception (Combs & Snygg 1959, 367).

According to this view teaching is strongly related to the personality, since it is involved in the pupil´s way of understanding himself and the experiences to which he is continually subject. The teacher traines´s behaviour will therefore only be affected to the extent that the information has any meaning for the individual in question. If "self" meand "organization of ways of seeing one´s self" (Kerber, 1967, 24), this ought to imply that the changing of the individual´s self is the most important and simplest method of influencing the individual´s behaviour.

Selokovich (1969, 225-228) has also investigated, among other things, the hypothesis that selfevaluation could prove to be an essential factor for the improvement of a teacher´s teaching.

If this can be developed into an economic and practicable system which proves effective in influencing individuals, it should have important consequences for contemporary teacher training. Such a system could be of decisive importance for colleges of education and other training institutions in Sweden.

In the field of education closed circuit television (CCTV) and video recording (VR) as well as microteaching are attracting ever-growing interest. It is hoped that numerous present and future problems may be solved with the help of CCTV. Many schools and colleges have been equipped with complete CCTV installations, but they lack the knowledge of the procedures of educational technology and the tasks these cover, that is to say no efforts have been made to draw up an analysis and a synthesis of the components related to such a system.

The technical development of CCTV and VR during the most recent years has opened up possibilities of working out methodial procedures (e.g. delayed audiovisual reconnection) which increase our prospects of systematically investigating the teacher´s way of observing interction processes and his own reactions in teaching situations. Microteaching - which is a scaling down technique (Allen and Ryan, 1969, 2) - should also be cited in this context. This is a technique which has given grounds for hope that an integration may be brought about between the theoretical and practical aspects of teacher training (Bjerstedt, 1967, 300). Alove all, research in the psychology of education could use this laboratory techinque with advantage in order to bring the whole process of instruction under experimental control.

A corner-stone of teacher training throughout the world is auscultation and practical training by means of exercises. The practice is that the teacher trainee at a training school observes an experienced teacher in order to try afterwards to imitate the teacher´s teaching skills, strategies and techniques. Even if it is assumed that the teacher trainee has learned something (imitation can, as Bandura (1969, 118) pointed out, constitute a possible form of learning), the teacher trainee´s possibilities of regulation are mainly limited to the responses of his tutor in the capacity of "reinforcer". Combs defines an efficient teacher as a person who has learned how to function effectively in order to realise his own wishes and the aims of the community for the purpose of educating individuals. He sees this definition partly as a verification of the need to study more precisely the "self as an instrument" concept (Combs, 1965, 19-20), the self as an instrument for controlling and regulating in order to provide good teaching.

A perpetually recurring difficulty in the traditional tutorial situation intended to help the teacher trainee to discover himself and the relations existing between the trainee and the pupils lies in the limitation common to both the tutor and the trainee in attempting to reconstruct, in an exact manner (e.g. photographically and/or phonographically), the circumstances which have arisen in the teacher training situation. Many difficulties could therefore be eliminated with the aid of new teaching media.

The teacher trainer has naturally every reason to pay attention to such media as CCTV and VR and their special spheres of application as educational instruments in tutorial situations. To let the teacher trainee study himself, that is to say "attend his own lessons" is no longer educational wishful thinking but in reality a readily accessible technique. In this context we face the following problems:

(1) How is this self-confrontation via CCTV in teacher training situations experienced and what effects does it have?

(2) How does it function in comparison with traditional tutorial methods?

These questions constituted the point of departure for sub-project 1.

Design

In order to be able to study, under systematic and controlled conditions, the effects which self-confrontation via CCTV/VR has compared to the traditional tutorial model, on the teacher traine´r perception and evaluation, partly of himself and partly of the instructional process, a "p x q coefficient" experiment with repeated feeding was initiated in School Year 1968-69.

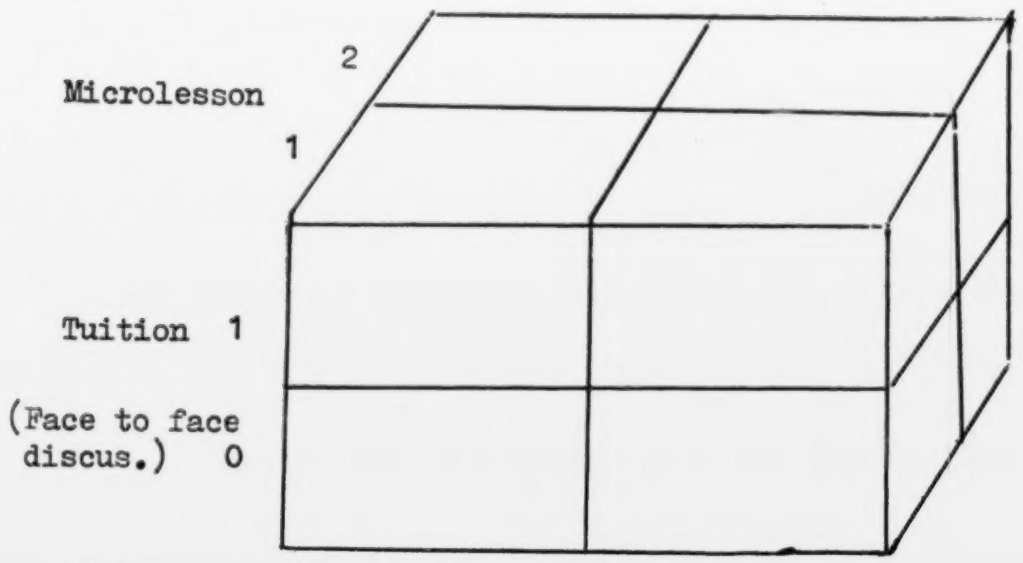

Fig. 1. Design

Videorecord

During the experiment the teacher trainees are faced by the following stipulations:

in Coefficient A: Microlesson with the traditional tutorial model (face-to-face discussion)

a_1 Tuition

a_2 No tuition

in Coefficient B: Microlesson with self-confrontation

b_1 Self-confrontation

b_2 No self-confrontation

The design determines whether there are differences in (1) a-levels, (2) b-levels and (3) whether there are inter-play effects (AB).

Collection of Data

The collection of data implies video recording of microlessons, sound recordings of spontaneous and simultaneous comments during self-confrontation, sound recordings of tutorial comments, evaluation scales for teacher trainees to evaluate various aspects of themselves and the learning process as well as self-confrontation, expert evaluations of the recorded lesson material as well as a battery cognitive test, personality and attitude tests undergone by teacher trainees participating in the experiment.

Execution of the Experiment

Technical and staff limitations have made it necessary to divide the experiment into two phases:

During the Spring Term of 1969 the first phase was carried out:

Field 2: **microlesson and traditional tuition (face-to-face discussion) and**
Field 3: microlesson and self-confrontation via CCTV/VR

The second phase was completed on June 15th, 1970, This phase consists of:

Field 1: microlesson with both self-confrontation via CCTV and tuition as well as
Field 4: microlesson only.

Persons taking part in the Experiment

During the first phase, Spring Term 1969, and during the second phase, Spring Term 1970, a total of 96 teacher trainees (intermediate stage teacher flow, 2nd term course) participated as experimental persons (epp). In addition about 360 pupils belonging to the fourth year of the experimental and demonstration school of the College of Education took part in the experiment and were divided into 24 instructional groups.

Microlessons

Every ep prepared two microlessons each lasting 15 mins. In order to establish acquaintance with the pupils of the respective instructional groups (10-15 pupils per group), every ep was allowed 5 mins "warming up time". Only the effective instruction time was video recorded.

The subject was Natural History =the animals of Norrland) which the epp were required to prepare as teacher-directed instruction. No measures had been taken to attempt, in a behaviouristic spirit, to restrict the epp to a method of instruction laid down in detail. Every ep was permitted, within the framework of a method of instruction based on teacher direction, to present the lesson in accordance with his own intentions, above all in order to make use of the specifically personal characteristics.

The microlerson technique is used as a means of placing epp in those situations where they are given the chance to develop teaching behaviour allowing scope to exploit their own abilities to the maximum possible extent. The task was then, against this background, to observe and evaluate their own performance in the two microlessons and, furthermore, to study these on repeated occasions. The design was thus in accordance with Fig. 2, p 11.

Tutor

One lecturer in teaching methods for the intermediate stage acted as tutor for the first as well as the second phase (one and the same person for both phases).

Panel of Expertis

Four teachers of Education, Licenciates in Philosophy with teaching and research experience, served on the panel of experts. The same panel assessed the microlessons used for both phases.

Processing and Evaluation

Processing of collected data has already commenced. The mass of data consists in part of qualitative data for which a system of categories (preliminary version) has veen worked out, partly of quantitative data (evaluation scales and questionnaires with bound multiple choice answers).

Of the questions to which it is hoped that the experiment will provide answers, the following may be mentioned

Panel of Experts

(1) What degree of unaminity is attained within an educational panel of experts in the assessment of microlessons?

(2) What types of assessment are easy, from the point of view of agreement?

(3) Can the Panel of Experts´ data be used as a criterion of comparison, e.g. by way of evaluation of the teacher trainees´ relative "objectivity" when assessing themselves and their teaching?

Teacher Trainees

(4) To what extent does the teacher trainees´ deviate from that of the Panel of Experts?

(5) To what extent and how do changes take place in perception and assessment (ep frame of reference) in repeated experience of the same video-taped lesson and confrontation with fresh video-recorded material, respectively?

(6) What do teacher trainees mainly comment on during the self-confrontation process?

(7) To what extent is cognition (1) ego-centred, (2) pupil-centred or (3) material centred?

Correlation Studies

(8) To what extent is there a connection between typical perecption tendencies and test data?

(9) To what extent can the relative variables (major difference - minor difference) be related to other variables, cognitive test, personality and attitude test?

Effect Studies

(10) To what extent do the four different experimental stipulations give different effects?

(11) Are there interplay effects and if so, what form do they take?

Reporting

Reports will be issued from time to time in the Institute´s series of reports.

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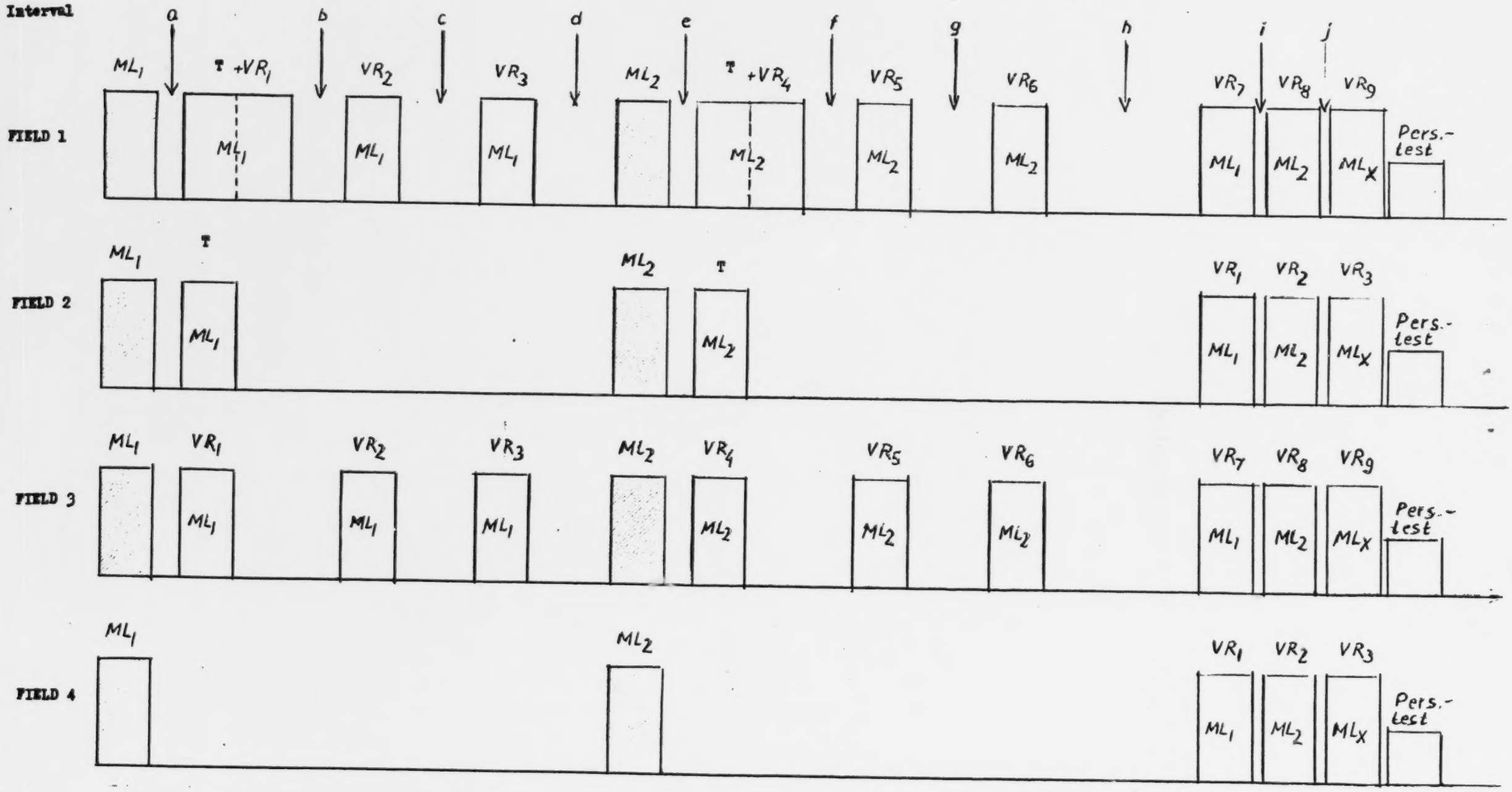

LEGEND:

a = 5 - 10 minutes
b = 1 day
c = 7 days
d = 7 days
e, f, g = a-d
h (1+3) = 62 days
h (2+4) = 76 "
i = 1 day
j = 2-3 days

T = Tutorial
ML_{1-2} = Microlessons 1 and 2
ML_{I} = Microlesson (ep II, experiment, Spr.1968
VR_{1-8} = Videorecord of ML_1 and/or ML_2
VR_{3-9} = Videorecord (ep II, Spr.1968)
Pers.Test = Personality Test

Design of the Experiment